

7600032

ALIE: UNIMICED SUMIES OF AVIERION

FMC Yorporation
Agricultural Chemical Division, Seed Department
Takereas, there has been presented to the

Secnocianos odo Parnogentanhos

AN APPLICATION REQUESTING A CERTIFICATE OF PROTECTION FOR AN ALLEGED NOVEL VARIETY OF SEXUALLY REPRODUCED PLANT, THE NAME AND DESCRIPTION OF WHICH ARE CONTAINED IN THE APPLICATION AND EXHIBITS, A COPY OF WHICH IS HEREUNTO ANNEXED AND MADE A PART HEREOF, AND THE VARIOUS REQUIREMENTS OF LAW IN SUCH CASES MADE AND PROVIDED HAVE BEEN COMPLIED WITH, AND THE TITLE THERETO IS, FROM THE RECORDS OF THE PLANT VARIETY PROTECTION OFFICE, IN THE APPLICANT(S) INDICATED IN THE SAID COPY, AND WHEREAS, UPON DUE EXAMINATION MADE, THE SAID APPLICANT(S) IS (ARE) ADJUDGED TO BE ENTITLED TO A CERTIFICATE OF PLANT VARIETY PROTECTION UNDER THE LAW.

NOW, therefore, this certificate of plant variety protection is to grant unto the said applicant(s) and the successors, heirs or assigns of the said applicant(s) for the term of seventeen years from the date of this grant, subject to the payment of the required fees and periodic replenishment of viable basic seed of the variety in a public repository as provided by LAW, the right to exclude others from selling the variety, or offering it for sale, or reproducing it, ar importing it, or exporting it, or using it in producing a hybrid or different right therefrom, to the extent provided by the Plant Variety Protection Act at. 1542, as amended, 7 u.s.c. 2321 et seq.)

LETTUCE

'Vanagara'

In Testimony Waterest, I have hereunto set my hand and caused the seal of the Plant Variety Protection Office to be affixed at the City of Washington

this 15th day of September in the year of our Lord one thousand nine hundred and seventy-seven

Attest:

Commissioner Plant Variety Protection Office Grain Division Agricultural Marketiny Service

Lecretary of Agriculture

FORM GR - 470 (12-15-72)

UNITED STATES DEPARTMENT OF AGRICULTURE AGRICULTURAL MARKETING SERVICE GRAIN DIVISION HYATTSVILLE, MARYLAND 20782

FORM APPROVED OMB NO. 40-R3712

APPLICATION FOR PLANT VARIETY PROTECTION CERTIFICATE

1. VARIETY NAME OR TEMPORARY	2. KIND NAME			AL USE ONLY
DESIGNATION 4/56/27			PV NUMBER	0032
Vanagra " / "//	Lettuce 4. FAMILY NAME (Botani	cell	FILING DATE	TIME
3. GENUS AND SPECIES NAME	4. FAMIL! WARE (DUIS		1.28.76	10 🎬
	Compositae		FEE RECEIVED	BALANCE DUE
얼마는 얼룩은 그는 그렇게 왜 먹으라.	5. DATE OF DETERMINA	ATION	\$ 250.00	12-5-76
			\$ 250.00	\$ 4-5-77
Lactuca sativa	March. 1975		\$ 250.00	\$5-26-77
6. NAME OF APPLICANT(S)	7. ADDRESS (Street and I	Vo. or R.F.D. No., C	ity, State, and ZIP	8. TELEPHONE AREA CODE AND NUMBER
Corporation	Code)			
cultural Chemical Divis		ice Box 250		
Department	El Macero	o, Californ	ita 95618	(916) 756-13
n Seeds, Inc., 1155 Harkaro Fell	10			
nas Catiforna 93901 (187)		STATE OF INCOR	PORATION	11. DATE OF INCOR-
ORGANIZATION: (Corporation, partnershi	p, association, etc.)			PORATION
Corporation		Delaware		8-10-28
12. Name and mailing address of appl	icant representative(s),	if any, to serve in	this application a	nd receive all paper:
아내는 사람이 하는 것이 없는 이 사람이 가는 물리가 없어야 하는 것을 하셨다.	ison H. Young,			
	nts & Licensing			
可表现 网络海豚 医乳腺管 医二氯甲基甲基二甲基甲基甲基甲基甲基甲基甲基甲基甲基甲基甲基甲基甲基甲基甲基甲基甲	Corporation			
	Market Street			
我们们的一个怪,一点的话,我看到一个女人,这个人的人数人的话题的人,一个女孩,一点的人,一个女孩子	adelphia, Pa. 19	9103		
			the second secon	
13. CHECK BOX BELOW FOR EACH ATTA	eeding History of the Va	riety (See Section	152 of the Plant Vo	triety Protection Act
I3A. Exhibit A, Origin and Br	eeding History of the Vascription of the Variety	riety (See Section	i 52 of the Plant Vo	triety Protection Act
[図 13A. Exhibit A, Origin and Br [図 13B. Exhibit B, Botanical De	eeding History of the Vascription of the Variety	riety (See Section	152 of the Plant Va	riety Protection Act
区 13A. Exhibit A, Origin and Br 区 13B. Exhibit B, Botanical De	eeding History of the Vascription of the Variety scription of the Variety ve of Novelty		i 52 of the Plant Va	iriety Protection Act
X 13A. Exhibit A, Origin and Br X 13B. Exhibit B, Botanical De X 13C. Exhibit C, Objective Des X 13D. Exhibit D, Data Indicati X 13E. Exhibit E, Statement of the content of the	eeding History of the Vascription of the Variety scription of the Variety ve of Novelty he Basis of Applicant's lat seed of this variety b	Ownership e sold by variety		
X 13A. Exhibit A, Origin and Br X 13B. Exhibit B, Botanical De X 13C. Exhibit C, Objective Des X 13D. Exhibit D, Data Indicati X 13E. Exhibit E, Statement of to 14A. Does the applicant(s) specify the (See Section 83(a), (If "Yes.")	eeding History of the Vascription of the Variety scription of the Variety ve of Novelty the Basis of Applicant's lat seed of this variety banswer 14B and 14C below	Ownership e sold by variety w.) 4C. If ''Yes,'' to	name only as a cla YES NO	ss of certified seed?
X 13A. Exhibit A, Origin and Br X 13B. Exhibit B, Botanical De X 13C. Exhibit C, Objective Des X 13D. Exhibit D, Data Indicati X 13E. Exhibit E, Statement of the Company of the Applicant (See Section 83(a), (If "Yes," 14B. Does the applicant(s) specify the Company of the Applicant (See Section 83(a)) (If "Yes," 14B. Does the applicant (See Section 83(a))	eeding History of the Variety scription of the Variety ve of Novelty the Basis of Applicant's nat seed of this variety be nat this variety be lons?	Ownership e sold by variety w.) 40. If ''Yes,'' to beyond breede	name only as a cla □YES ⊠NO 14B, how many gener rseed?	ss of certified seed?
X 13A. Exhibit A, Origin and Br X 13B. Exhibit B, Botanical De X 13C. Exhibit C, Objective Des X 13C. Exhibit D, Data Indicati X 13E. Exhibit E, Statement of the See Section 83(a), (If "Yes," 14B. Does the applicant(s) specify the limited as to number of generations.	eeding History of the Vascription of the Variety scription of the Variety ve of Novelty the Basis of Applicant's lat seed of this variety banswer 14B and 14C belowat this variety be tons?	Ownership e sold by variety w.) 40. If 'Yes,'' to beyond breede FOUNDATION	name only as a cla YES NO 14B, how many geners seed? REGISTERE	ss of certified seed? erations of production
X 13A. Exhibit A, Origin and Br X 13B. Exhibit B, Botanical De X 13C. Exhibit C, Objective Des X 13D. Exhibit D, Data Indicati X 13E. Exhibit E, Statement of to 14A. Does the applicant(s) specify the (See Section 83(a), (If "Yes," of 14B. Does the applicant(s) specify the limited as to number of generating the specificant declares that a viable ance of a certificate and will be rep	eeding History of the Variety scription of the Variety ve of Novelty the Basis of Applicant's lat seed of this variety banswer 14B and 14C belowat this variety be sons? YES NO sample of basic seed of blenished periodically in	Ownership e sold by variety w.) 40. If 'Yes,'' to beyond breede Foundation this variety will accordance with	name only as a cla YES NO 14B, how many gener seed? REGISTERE be deposited upon such regulations as	ss of certified seed? erations of production CERTIFIE request before issues may be applicable.
X 13A. Exhibit A, Origin and Br X 13B. Exhibit B, Botanical De X 13C. Exhibit C, Objective Des X 13D. Exhibit D, Data Indicati X 13E. Exhibit E, Statement of 14A. Does the applicant(s) specify the (See Section 83(a), (If "Yes," 14B. Does the applicant(s) specify the limited as to number of generations.	scription of the Variety scription of the Variety scription of the Variety ve of Novelty the Basis of Applicant's nat seed of this variety be maswer 14B and 14C belowat this variety be cons? YES NO sample of basic seed of blenished periodically in this sexually-reproduced re	Ownership e sold by variety w.) 40. If 'Yes,'' to beyond breede FOUNDATION this variety will accordance with novel plant variet	name only as a cla YES NO 14B, how many gener seed? HEGISTERE be deposited upon such regulations as y believes that the	ss of certified seed? Erations of production CERTIFIE request before issu- is may be applicable. variety is distinct,
X 13A. Exhibit A, Origin and Br X 13B. Exhibit B, Botanical De X 13C. Exhibit C, Objective Des X 13D. Exhibit D, Data Indicati X 13E. Exhibit E, Statement of the state of the st	scription of the Variety scription of the Variety ve of Novelty the Basis of Applicant's nat seed of this variety be nat this variety be tons? YES NO sample of basic seed of blenished periodically in nis sexually-reproduced notes that is entitle	Ownership e sold by variety w.) 40. If ''Yes,'' to beyond breede FOUNDATION this variety will accordance with wovel plant variet ad to protection u	name only as a cla YES NO 4B, how many generic seed? REGISTERE be deposited upon such regulations as y believes that the nder the provisions	ss of certified seed? erations of productio CERTIFIE request before issumaly be applicable. variety is distinct, of Section 42 of the
X 13A. Exhibit A, Origin and Br X 13B. Exhibit B, Botanical De X 13C. Exhibit C, Objective Des X 13D. Exhibit D, Data Indicati X 13E. Exhibit E, Statement of the state of the st	scription of the Variety scription of the Variety ve of Novelty the Basis of Applicant's nat seed of this variety be nat this variety be tons? YES NO sample of basic seed of blenished periodically in nis sexually-reproduced notes that is entitle	Ownership e sold by variety w.) 40. If ''Yes,'' to beyond breede FOUNDATION this variety will accordance with wovel plant variet ad to protection u	name only as a cla YES NO 4B, how many generic seed? REGISTERE be deposited upon such regulations as y believes that the nder the provisions	ss of certified seed: erations of production CERTIFIE request before issues may be applicable. variety is distinct, of Section 42 of the
X 13A. Exhibit A, Origin and Br X 13B. Exhibit B, Botanical De X 13C. Exhibit C, Objective Des X 13D. Exhibit D, Data Indicati X 13E. Exhibit E, Statement of the state of the st	scription of the Variety scription of the Variety ve of Novelty the Basis of Applicant's nat seed of this variety be nat this variety be tons? YES NO sample of basic seed of blenished periodically in nis sexually-reproduced notes that is entitle	Ownership e sold by variety w.) 40. If ''Yes,'' to beyond breede FOUNDATION this variety will accordance with wovel plant variet ad to protection u	name only as a cla YES NO 4B, how many generic seed? REGISTERE be deposited upon such regulations as y believes that the nder the provisions	ss of certified seed: erations of productio CERTIFIE request before issumaly be applicable. variety is distinct, of Section 42 of the
X 13A. Exhibit A, Origin and Br X 13B. Exhibit B, Botanical De X 13C. Exhibit C, Objective Des X 13C. Exhibit D, Data Indicati X 13E. Exhibit E, Statement of the Section 83(a), (If "Yes," of 14A. Does the applicant(s) specify the (See Section 83(a), (If "Yes," of 14B. Does the applicant(s) specify the limited as to number of generated and the second according to the second according to the second according to the second according to the second applicant(s) of the second according to the second a	scription of the Variety scription of the Variety ve of Novelty the Basis of Applicant's nat seed of this variety be nat this variety be tons? YES NO sample of basic seed of blenished periodically in nis sexually-reproduced notes that is entitle	Ownership e sold by variety w.) 40. If ''Yes,'' to beyond breede FOUNDATION this variety will accordance with wovel plant variet ad to protection u	name only as a cla YES NO 4B, how many generic seed? REGISTERE be deposited upon such regulations as y believes that the nder the provisions	ss of certified seed: erations of production CERTIFIE request before issues may be applicable. variety is distinct, of Section 42 of the
X 13A. Exhibit A, Origin and Br X 13B. Exhibit B, Botanical De X 13C. Exhibit C, Objective Des X 13D. Exhibit D, Data Indicati X 13E. Exhibit E, Statement of 14A. Does the applicant(s) specify the (See Section 83(a), (If "Yes," 14B. Does the applicant(s) specify the limited as to number of generated ance of a certificate and will be reported to the section, and stable as required in Plant Variety Protection Act. Applicant is informed that false research in the section of the section is informed that false research.	scription of the Variety scription of the Variety ve of Novelty the Basis of Applicant's nat seed of this variety be nat this variety be tons? YES NO sample of basic seed of blenished periodically in nis sexually-reproduced notes that is entitle	Ownership e sold by variety w.) 40. If ''Yes,'' to beyond breede FOUNDATION this variety will accordance with wovel plant variet ad to protection u	name only as a cla YES NO 4B, how many generic seed? REGISTERE be deposited upon such regulations as y believes that the nder the provisions	ss of certified seed: erations of production CERTIFIE request before issues may be applicable. variety is distinct, of Section 42 of the
X 13A. Exhibit A, Origin and Br X 13B. Exhibit B, Botanical De X 13C. Exhibit C, Objective Des X 13D. Exhibit D, Data Indicati X 13E. Exhibit E, Statement of the state of the st	scription of the Variety scription of the Variety ve of Novelty the Basis of Applicant's nat seed of this variety be nat this variety be tons? YES NO sample of basic seed of blenished periodically in nis sexually-reproduced notes that is entitle	Ownership e sold by variety w.) 40. If 'Yes,'' to beyond breede FOUNDATION this variety will accordance with covel plant variet ed to protection u jeopardize protec	name only as a cla YES NO 4B, how many generic seed? REGISTERE be deposited upon such regulations as y believes that the nder the provisions	ss of certified seed: erations of production CERTIFIE request before issues may be applicable. variety is distinct, of Section 42 of the enalties.

INSTRUCTIONS

GENERAL: Send an original copy of the application, exhibits and \$250.00 fee to U.S. Dept. of Agriculture, Agricultural Marketing Service, Grain Division, 6525 Belcrest Road, Hyattsville, Maryland 20782. (See Section 180.175 of the regulations and rules of practice.) Retain one copy for your files. All items on the face of the form are self-explanatory unless noted below.

ITEM

- 5 Insert the date the applicant determined that he had a new variety based on the definition in Section 41 (a) of the Act and decision is made to increase the seed.
- 13a First, give the genealogy, including public and commercial varieties, lines, or clones used, and the breeding method. Second, give the details of subsequent stages of selection and multiplication. Third, indicate the type and frequency of variants during reproduction and multiplication and state how these variants may be identified. Fourth, provide evidence on stability.
- 13b First, give any special characteristics of the seed and of the plant as it passes through the seedling stage, flowering stage and the fruiting stage. Second, describe the mature plant and compare it with a similar commercial variety grown under the same conditions, and indicate the differences.
- 13c A supplemental form will be furnished by the PVPO to describe in detail a variety for each kind of seed.
- 13d Provide complete data indicative of novelty. Seed and plant specimens or photographs of seed and plant comparisons clearly indicating novelty may be submitted. Seeds submitted may be sterile.
- 13e Indicate whether applicant is the actual breeder, the employer of the breeder, the owner through purchase or inheritance, etc.

EXHIBIT A ORIGIN AND HISTORY OF VANAGARA LETTUCE

- 1967 Vanguard MI Lot 5526 was received and given an accession number 41227. This seed was planted as plot 6801 in the 1967 lettuce trial. Two single-plant selections were made from this line.
- 1968 A bulk of the 2 single-plant selections was grown in the screenhouse in 7 pots and was identified as plot 3735 (pots 1 through 7).
- 1969 Progenies from 6 of these pots were grown in field plots 8727 through 8732. Plot 8728 was noted as an "early, very good Vanguard type."
- 1970 Four single-plant selections of the "Vanguard new type," which were harvested from 1969 plot 8728, were grown in separate plots (9723, 9724, 9737, and 9740) in the screenhouse.

 Seed from the same selections from plot 8728 made in 1969 was also planted in a field trial and evaluated. One plot was identified as being the most uniform and typical of the line objectives. This was identical to the seed planted in the screenhouse and identified as plot 9737.
- 1972 The progeny of plot 9737 was increased in the screenhouse. Twenty pots were planted and the lot was identified as 0813. The line, when harvested, was given an experimental number NCX 4400.
- 1972 175 grams of lot 9737=0813 was released to production for increase. NCX 4400 also was planted in our field trial and was observed to have larger heads and better wrapper leaves than regular Vanguard.
- 1973 Stock seed increase of NCX 4400 and Commercial Trials in desert areas of California and Arizona.
- 1973-4 Commercial trials indicated NCX 4400 was a distinctive variety with heads slightly larger and maturity slightly earlier than Vanguard. Wrapper leaves were better, color was darker green, and plants were more uniform than Vanguard.
 - 1974 Commercial Production and naming NCX 4400 Vanagara.

EXHIBIT A Continued

1974-75 commercial production was grown and observed for uniformity. The fields of Vanagara generally were more uniform than those of Vanguard. A leaf type variant was found in the Vanagara fields at a frequency of less than 1/20,000. A photograph of this variant has been included.

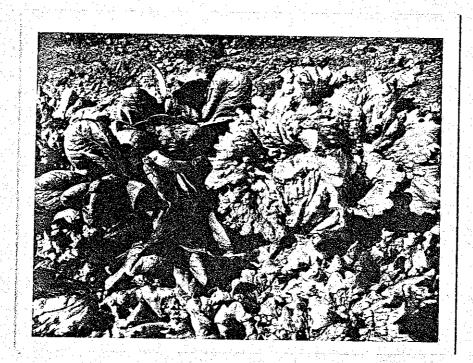


EXHIBIT B BOTANICAL DESCRIPTION OF THE VARIETY

Vanagara lettuce is a variety of <u>Lactuca sativa</u>, sub-species capitata (crisphead), an annual of the family Compositae.

Vanagara has large, orbicular leaves slightly curled on the edges, with crenate margins. The leaves are dark green, slightly darker in color than leaves of Vanguard. The inner leaves of Vanagara are compacted into a dense rosette, and the immediate outside leaves are incurved providing protection from sunburn.

The mature head is globular averaging 14 cm in diameter. Approximately 12% of the heads are slightly elongated, measuring about 1.5 cm more in height than width. This differs from Vanguard which produces some slightly flattened heads.

Vanagara is a brown seeded variety. Seeds are 3 - 4 mm long and 1 mm wide, attenuate at the base with acuminate tips.

			ر ماند. موجع براند ارداد ا	ym ym
ORM GR-471	U	NITED STATES DEPARTME	()()() ENT OF AGRICULTURE	E VUIDIT C
(4-3-72)	- 1 79234 - 3 423575-54	AGRICULTURAL MARI		pear general condition
•	Calgrange Services	HYATTSVILLE, MAF	RYLAND 20782	
(STRUCTION	NS: See reverse.	OBJECTIVE DESCRIPT		. Ozwas Widos
	orporation	. Organia . Romaniam en Cales	The street of the street of the street	FOR OFFICIAL USE ONLY
	reet and No. or R.F.D. No., City	i i i i i i i i i i i i i i i i i i i		97 - 1 - 7600032
	ffice Box 2508 ero, California	95618		VANAGARA
lace the a	appropriate number that	describes the varietal	character of this va	riety in the boxes below.
I. PLANT T			0 = cos	40 = CRISPHEAD
П 3	10 = CUTTING (Leaf) 2	OESTALK	31 = SELF-CLOSING	41 = IMPERIAL GROUP
	- <u> </u>	O = LATIN	32 = LOOSE-CLOSING	42 = GREAT LAKES GROUP 43 = VANGUARD
	70 = OTHER (Specify)	***	GROUP	44 = NEW YORK GROUP
SEED COL			ANTHOCYANIN:	
2 I = V	/8/1000 white 2 = Black 3 = 1	JAMES 1		PRESENT
LEAF CON	NTAINING ANTHOCYANIN:	. 20 V St. (12.		
	COVERED 2 = SPOTTED	3 = ALONG MARGIN 4 =		Specify) None
LEAF SUR	RFACE TEXTURE:	6. LEAF SURFACE REFLEC		
	ou espo do s france	SETT SERVED A RESIDENCE	Age terrora (trens)	ijem kjaligera
٠ -	SMOOTH 2 = BLISTERED	2] = DULL 2 = GL	OSSY 3 = OTHER (Spec	ity) The Typical Commission of the State of
1 1	STRAIGHT 2 = WAVY	1 = ENTIRE 2 = 0	DENTATE 3 = INCISED	數2 · MA · MARKE ETA (MATROTREE A.) — -
LEAF SHA				
	ROUNDED 2 = POINTED	1 = BROADER	LONGER	OTHER (Specify)
LEAF COL	OR: (See reverse.)	THE FAULT WHEN SO		
7 1 = 5	RED 2 = REDDISH-BROWN	3:= YELLOW (4)= YELL	OWISH-GREEN 5 = GRE	
	BLUE-GREEN 7 = DARK-GE		EEN . PLANT SIZE: (See rever	
		ED 3 = ELONGATE	·	
1 4 = P	POINTED 5 = NON-HEADIN		3 1 = SMALL 2 = 1	DSCHOOLVOA DSC MEDIÚM 3 = LARGE
CUL TURE:		149 (1)	en Türk	
2 1 = S	CROP 2 = WINTER 3	= NOT 4 = UNDER SPECIFIC 4 = GLASS	5 = OTHER (Specify)	·
			Growth Chamber) AT 25° C.	: (Place a zero in first box (i.e. 0 2)
	mm. LENGTH OF SEEDLING	1 4 4 6 1	H OF COTYLEDON	0 4 mm. WIDTH OF COTYLEDON
	RESISTANCE TO: (Enter zeroe		special disease resistance.	
0 1 = т	TPBURN 0 2 = MOS	AIC 3 = DAMPIN	G O F	DOWNY MILDEW
0 5 = S	CLEROTINIA 0 6 = BRO	WN 0 7 = BIG VEI	N	OTHER (Specify)
OUTLINE 1			th leaf should be taken from	n a 20-day old plant grown under constant
light.)	TO THE ACT WHAT AND A			The second of th
World William		Wasiluani. 1	and the second s	
The contraction of the contracti		Vanjanari 2		
jishi spob jishi bish	:	A025 GGUL 3		
Parat Color			· · · · · · · · · · · · · · · · · · ·	
	Charagour e			and the second s
	S MARCH TARRETY AGES, CO.			00005

· · · · · · · · · · · · · · · · · · ·			1.6					
16. INDICATE WHI	CH VARIETY MOST	CLOSELY RE	SEMBL	ES THAT SUBMITTE	D:	nnna		_
CHAR	ACTER	Ī			NAME OF VARIETY	1		_
Leaf color		Vangu	uard					
Leaf pigmentat	ion	Vangu			· · · · · · · · · · · · · · · · · · ·			_
Leaf shape		Vangu		L	j.		•••	-
Plant size		Vangi	-					
Head size		Vangi						
2. VARIETY	NO. OF DAYS TO HEAD MATURITY UNDER WINTER OCROPPING			NO. OF DAYS TO HEAD MATURITY UNDER SUMMER CROPPING	LOCATION	NO. OF DAYS TO SEED STALK EMERGENCE UNDER SUMMER CROPPING		-
Submitted	·80 - 85	Blyth,	Сa.	And the second second		× - 75-80	Five Pts,	_ _ (
Similar	85-90	Blyth,	Ça.	gardine service com	To account to the second control of the seco	80-85	Five Pts,	. (
Name of	Vangua					Vanguard		_

INSTRUCTIONS

The following publications may be used as a reference aid GENERAL: for completing this form:

- 1. C. M. Rodenburg, 1960, Varieties of Lettuce, An International Monograph, Institunt Voor de Veredeling van Tuinbouwgewassen, Wageningen, Holland.
 - L. L. Morse, 1930, Field Notes on Lettuce, published by Ferry-Morse Seed Co.

+ 1 + 1.7 ± KS LEAF COLOR: Nickerson's or any recognized color fan may be used to determine the leaf color of the described variety. The following lettuce varieties may be used as a guide to identify the eight colors listed on the form.

TO THE PARTY OF A	SERVE OF PROPERTY	ดม ม พร้าง (กรุ บ.) เมนิ ระส งทา	
	Color	Variety Parish Parishers	eres i Vidue I
F. The Son to best	THE Reduces to	"Salad Trim"	•
	Reddish-brown	"Ruby"	a company of the second of the
A A A A A A A A A A A A A A A A A A A	Yellow	"Ruby" See See	
	Yellowish-green	"Oakleaf" SHOCATHE	
	Greyish-green	"White Boston"	- 4: 4: 20 (20 20 20 20 20 20 20 20 20 20 20 20 20 2
	Bluish-green	"Bibb" 35 choose choose	
는 사람들이 되었다. - 기계 1일 기계	Dark-green Very dark green	"Imperial" group	· · · · · · · · · · · · · · · · · · ·
	Very dark green	"Deer Tongue"	The state of the second section of the second
e forther all safe		AND THE PROPERTY OF THE PARTY O	។ ្រ ស្ន េសស្ត្ នៃប៉ាច

regardadini sejerge extrack or tuo pomer PLANT SIZE: The following varieties may be used as a guide to identify the plant type size:

TYPE	COMPARABLE VARIETIES. C. 45 M.C. O.S. J. 25 M.O.C. D.A.				
A CHINE LISTENS WELL WAS ARREST WITH DAY	SMALL	MEDIUM 🕴 😘 🖔	LARGE		
Cutting (leaf) Stalk (stem)	Boston-Curled Celtuce	Prize Head	Grand Rapids		
Crisphead	Express Mignonette	Parris Island Hanson (Merit)	Giant White Climax		
Butterhead Latin	Tom Thumb Sucrine	Big Boston	Mammoth Butter Deer Tongue		

EXHIBIT D DATA INDICATIVE OF NOVELTY

- 1. Field Trial 1969 "Vanagara was earlier in maturity and a very uniform Vanguard type." Plant breeders subjective evaluation.
- 2. Field Trial 1972 "Vanagara had larger heads and better wrapper leaves than Vanguard"
- Commercial Trials 1973-74, Blythe, California.
- A. Vanagara head development showed 32/400 plants with head formation initiating. In an adjacent plot 22/400 plants of Vanguard lettuce forming heads.
- 101/900 Vanagara plants were forming heads as compared to a Ferry-Morse Vanguard stock which had 85/900 beginning to form heads.
- Commercial Trials 1974-75
- Pandle Bros., Delano, California. Harvest results indicated Vanagara had darker color, better texture, and larger These were growers observations. heads than Vanguard.
- B. Roberts Farms, Bakersfield, California. Vanagara produced 50 cartons more/acre than Vanguard at the first cut primarily because of larger head size. These were fieldman's remarks.
- C. Vukosovich County, Yuma, Arizona. Seed specialists observations were that Vanagara was slightly larger, more uniform, and darker green than Vanguard.
- Pacific Lettuce Co., Blythe, California. Seed Specialists observations were that Vanagara is larger in size than Vanguard and darker green.
- Desco Ranches, Blythe, California. Harvest results showed Vanagara to have larger plants and heads than Vanguard.
- F. Western Research Center, Davis, California. Mature head measurements for a sample of ten heads each from Vanagara and Vanguard showed the following:

Vanagara - 5.5" wide X 5.4" high

Vanguard - 5.4" wide X 5.2" high

Exhibit D continued:

E. Imperial Valley Field Station, Meloland, Calif. February 14, 1977

Fifty foot plots of Vanguard and Vanagara were planted adjacent to each other on October 16 and October 24, 1976.

The following maturity observations were made on Feb. 14:

<u>Planting</u>

·	<u>October 16</u>	October 24
Vanguard	66/73 mature or 90%	19/85 mature or 22%
Vanagara	84/87 mature or 96%	32/69 mature or 42%

Measurements of frame size, head size (polar and equitorial), and core size were made on 30 mature plants of each variety. Mean differences and statistical significance of these means are as follows:

	Frame Size"	<u>Polar</u> Ed	<u>uitorial</u>	Core Size "
Vanguard	14.23	4.88	4.73	0.82
Vanagara	15.65	5.09	4.98	0.93
LSD	1.31*	0.11**	0.17**	0.03*

^{*} Significant at 5% ** Significant at 1%

EXHIBIT D Continued: DATA INDICATIVE OF NOVELTY

Photo of typical plants and heads of:

left: Vanagara right: Vanguard

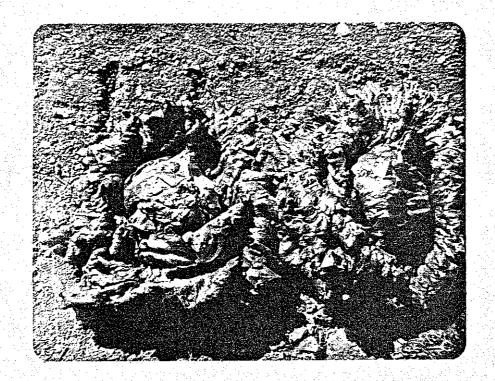


EXHIBIT E

STATEMENT OF THE BASIS OF APPLICANT'S OWNERSHIP

The applicant is the employer of the plant breeding research personnel responsible for developing <u>Vanagara</u> <u>Lettuce</u>.

$\underline{A} \underline{S} \underline{S} \underline{I} \underline{G} \underline{N} \underline{M} \underline{E} \underline{N} \underline{T}$

Whereas FMC CORPORATION, a corporation of the State of Delaware, having an office and place of business at 200 East Randolph Drive, Chicago, Illinois 60601, is the assignee of the entire right, title and interest in and to the United States Plant Variety Protection Certificates and Applications listed on the annexed Schedules A and B; and

Whereas MORAN SEEDS, INC., a corporation of the State of Delaware, having an office and place of business at 1155 Harkins Road, Salinas, California 93901, is desirous of acquiring the entire right, title and interest in and to said United States Plant Variety Protection Certificates and Applications;

Now therefore, for good and valuable consideration, receipt of which is hereby acknowledged, said FMC CORPORATION does hereby assign unto the said MORAN SEEDS, INC. all rights, title and interest in and to the said United States Plant Variety Protection Certificates and Applications listed on the annexed Schedules A and B.

FMC CORPORATION By:

Vice-President

STATE OF IllNois)

COUNTY OF (ook)

On July 31,/980 , before me a Notary Public in and for the County and State aforesaid, appeared

DANIEL C. Smith, Uice President

to me personally known to be the same person whose name is subscribed to the foregoing instrument, and acknowledged that he executed said instrument as his free and voluntary act, and for the uses and purposes therein expressed.

WITNESS my hand and seal the day and year last above given.

Barhara J. Nacl No fary Public

SCHEDULE A

PLANT VARIETY PROTECTION CERTIFICATES

Certificate No.	Name of Kind	Dare 114 Name of Variety
		OHTE 188
7200145	Bean	74/030 fee Gem
7200146	Watermelon	74/115 MBCharleston '76
7600032	Lettuce	770915 UB Vanagara
8 	Muskmelon	790531 Valley Gold
		appear to the second

SCHEDULE B

PLANT VARIETY PROTECTION CERTIFICATE APPLICATIONS

Application	No.	Name	of Kind	Filing dute	Name	of Variety
				J 187		
7900038		Bean		790112 st	Blue	Duet
7900039		Bean		790110 JEF	Score	3

ASSIGNMENT

WHEREAS, Moran Seeds, Inc. ("Moran"), a corporation duly organized and existing under the laws of the State of Delaware is the owner of United States Plant Variety Protection Certificates (the "Certificates"), listed in Exhibit A hereto and Pending United States Plant Variety Protection Applications (the "Applications"), listed in Exhibit B hereto; and

WHEREAS, in accordance with a Technology Transfer Agreement (the "Transfer Agreement") among Celanese Corporation ("Celanese"), Moran Seeds, Inc., Joseph Harris Company, Inc., CelPril Industries, Inc., Harris Moran International B.V. ("Sellers"), Virginia Chemicals, Inc., Les Produits Organiques du Santerre-Orsan S.A. ("Orsan"), HMS Acquisition Inc., CP Acquisition Inc., and Exploitatiemaatschappij Wolwevershaven B.V., dated January 1985, and a Purchase Agreement dated December 7, 1985, as amended, among Celanese, Sellers and Orsan, Orsan has purchased from Moran said Certificates and Applications.

NOW, THEREFORE, in accordance with said Transfer Agreement and Purchase Agreement, Moran assigns to Orsan all of its rights, title and interest in and to said Certificates and Applications.

Moran hereby authorizes Orsan to apply for and obtain the recordation of this Assignment. Moran agrees that it shall, without further consideration, promptly and duly cause to be performed such lawful acts and execution of any other documents as Orsan may reasonably request in order for Orsan to obtain the full benefits of this Assignment and to permit Orsan to be duly recorded in each office, bureau and tribunal in the appropriate jurisdiction as the registered owner or proprietor of each of the rights hereby assigned. Such instruments and documents shall include, without limitation, such applications, affidavits and other documents for filing in such jurisdictions as Orsan may from time to time reasonably request.

By these presents Orsan does hereby accept this Assignment and authorize the recording thereof with the appropriate authorities aforesaid.

IN WITNESS WHEREOF, the parties have caused this Assignment to be executed by its proper officers thereunto duly authorized this had day of January, 1985.

MORAN SEEDS, INC., Assignor

David A. Jenkins Vice President

LES PRODUITS ORGANIQUES DU SANTERRE-ORSAN S.A. Assignee

Sy: USA

STATE OF New York
COUNTY OF New York

Before me, a Notary Public, in and for said County, personally appeared Name who acknowledged that he is Notary of Moran Seeds, Inc., the corporation which executed the foregoing instrument and who acknowledged he signed said instrument on behalf of said corporation by authority of its Board of Directors; and that said instrument is the free corporate act and deed of said Moran Seeds, Inc.

of January, 1985

Clay C. Lengyel

NOTARY PUBLIC

(Notary Public)

My Commission Expires:

ALEX C. LENGYEL

Notary Fill of State of New York

Qualify and New York County

Commission, Engines March 20, 139 6

COUNTY OF New York

Before me, a Notary Public, in and for said County, personally appeared fature lettoday who acknowledged that he is the fature of Les Produits Organiques du Santerre-Orsan S.A., the corporation which executed the foregoing instrument and who acknowledged he signed said instrument on behalf of said corporation by authority of its Board of Directors; and that said instrument is the free corporate act and deed of said Les Produits Organiques du Santerre-Orsan S.A.

day of January, 1985.

this 10th

NOTARY PUBLIC

(Notary Public)

My Commission Expires:

ALEX C. LENGYD.
Notary Public State of New York
Not Bridgery y
Outsilised in New York County
Commission Expuse Major 10, 198 6

United States Plant Variety Protection Certificates

	Cert. No.	Date	Vind	True August	
	cerc. no.	Issued	<u>Kind</u>	Variety Name	<u>Owner</u>
	7200145	10/30/74	Garden Bean	Gem	Moran Seeds, Inc.
	7200146	11/15/74	Watermelon	Charleston 76	Moran Seeds, Inc.
	7400013	5/9/74	Lettuce	Calmaria	Moran Seeds, Inc.
	7400014	6/19/74	Lettuce	Cal K-60	Moran Seeds, Inc.
	7400071	6/19/74	Lettuce	Cabrillo	Moran Seeds, Inc.
	7600032	9/15/77	Lettuce	Vanagara	Moran Seeds, Inc.
	7600039	12/8/77	Lettuce	Morangold	Moran Seeds, Inc.
	7800028	5/31/79	Muskmelon	Valley Gold	Moran Seeds, Inc.
:	7900038	1/14/82	Garden Bean	Blue Duet	Moran Seeds, Inc.
	7900039	7/15/82	Snapbean	Score	Moran Seeds, Inc.
	7900066	11/27/79	Cauliflower	Snowball 123	Moran Seeds, Inc.
	8000020	7/31/80	Muskmelon	Top Net	Moran Seeds, Inc.
	8000082	12/10/81	Lettuce	Delmar	Moran Seeds, Inc.
	8200019	10/28/82	Onion	OMO M	Moran Seeds, Inc. Oshita, Inc.
	8200061	3/24/83	Watermelon	Sun Gold	Moran Seeds, Inc.
	8200104	10/28/82	Tomato	Advantage	Moran Seeds, Inc.
	8200105	11/26/82	Tomato	Moran 3053	Moran Seeds, Inc.
	8200027	4/23/83	Lettuce	El Toro	Moran Seeds, Inc.
	8100172	9/29/83	Lettuce	Van Mor	Moran Seeds, Inc.
	8300113	8/31/84	Muskmelon	Top Net SR	Moran Seeds, Inc.

Pending United States Plant Variety Protection Applications

Application No.	Filing Date	<u>Kind</u>	Variety Name	<u>Owner</u>
8100167	9/9/81	Lettuce	Yuma	Moran Seeds, Inc.
8300155	7/18/83	Celery	Bishop	Moran Seeds, Inc.
8300156	7/18/83	Celery	Deacon	Moran Seeds, Inc.
8300172	9/1/83	Tomato	Diego	Moran Seeds, Inc.
8400013	12/1/83	Lettuce	Greenfield	Moran Seeds, Inc.